

REMARKS/ARGUMENTS

This is a Preliminary Amendment filed with a RCE Application. A petition for a one month extension of time is attached to extend the period of response to 01/11/07.

During a telephone conference with Examiner Miller, it was suggested that Applicant file a Request for Continued Examination and that he would be willing to conduct an interview prior to issuing a first Office Action. Accordingly, the undersigned requests that the Examiner schedule the interview prior to issuing a first Office Action.

Status of Claims

Claims 1, 3-7, 9 and 11-14 are pending

Claims 2, 8 and 10 are cancelled

Claims 1, 3-7, 9 and 11-14 are pending

Claim Rejections

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 3 has been amended to depend upon claim 1 and the 112 rejection is now moot.

Claims 7-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 7 recites the limitation "the two side elongate elements" in line 6. There is insufficient antecedent basis for this limitation in the claim. Claim 7 has been amended to correct the antecedent basis and the 112 rejection is now moot.

The Invention

The method and apparatus of present invention incorporates a conveyor belt system and a splitter plate system disposed at a position forward of the end of the conveyor belt system. The

invention is designed for separating shredded trash into light plastic (polyethylene and styrene) and paper materials, such as dry cleaning bags and shopping bags, and heavier materials such as plastic (polyvinylchloride containing materials), textile and paper materials. The conveyor belt system includes a conveyor belt that carries shredded trash to a head pulley at one end. An air manifold is positioned directly underneath and approximately at the end of the conveyor belt, and blows an air stream generally in the direction of travel of the conveyor belt. As the pieces of trash exit from the end of the conveyor belt, they will be blown by the airstream from directly under the conveyor towards the splitter plate system.

The splitter plate system includes a rotatable cylinder that is essentially parallel to the head pulley at one end of the conveyor belt and which can rotate at a desired speed. Preferably, the cylinder rotates in the same direction as the head pulley

A first accumulation area for collecting the heavier pieces of trash is defined as the area between the conveyor system and the splitter plate system. A second accumulation area for collecting the lighter pieces of trash is on the side of the splitter plate system which is distal the conveyor system.

In operation, as the pieces of trash exit from the end of the conveyor belt, the lighter pieces of trash will be projected by the airstream **from directly under the end of the conveyor** over the cylinder of the splitter plate system and will fall in the second accumulation area. The heavier pieces of trash won't be propelled as far by the airstream and will fall into first accumulation area.

In order to control the amount of the lighter pieces of trash material which makes it over the cylinder, certain parameters can be easily changed. These include one or combinations of the following:

- adjusting the speed of the conveyor belt;
- adjusting the angle of the conveyor;
- adjusting the angle of the airstream;
- adjusting the pressure of the airstream;

- adjusting the distance between the rotatable cylinder and the head end of the conveyor;
- adjusting the height of the rotatable cylinder;
- adjusting the speed and direction of rotation of the cylinder; and
- changing the surface texture of the cylinder.

Two of the parameters which are very important are the distance of the rotatable cylinder from the head and the speed and direction of rotation of the cylinder. The distance of the cylinder from the head end of the conveyor control the amount of the lighter pieces of trash material which makes it over the cylinder. By moving the rotatable cylinder further from the head end of the conveyor, less of the lighter material will cross over the cylinder and the degree of lightness can thereby be controlled. The direction of rotation of the cylinder is important because it keeps the material from accumulating on the cylinder and causing a reduction of the amount of material crossing the cylinder.

Claim Rejections -35 USC § 103

In the last office action, Claim 1 was rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,405,451 to Roman in view of US 6,260,712 to Flottmann et al. The Office Action stated that "Roman discloses, a first conveyor system having a conveyor belt (18) wrapping around a roller (24) at one end of the conveyor belt, the conveyor belt having a direction of travel to the roller at the one end (fig 4) and conveying the pieces shredded trash, in the direction of travel, to the end of the conveyor belt; an air manifold (116, 122) positioned underneath and approximately at the end of the conveyor belt (fig 4) for blowing the pieces of shredded trash exiting the conveyor belt with an air stream which is generally in the direction of travel of the conveyor belt to the roller at one end, a splitter plate system (164) disposed at a position forward of the end of the conveyor system comprising a cylinder (166) which is essentially parallel to the roller at the end of the conveyor belt. Roman does not disclose, means for moving the splitter plate-system towards and away from the first conveyor system. Flottmann discloses, means for moving the splitter plate-system towards and away from the first conveyor system (6, c2 lines 64-67) for the purpose of controlling the separation level (c2 lines 64-67). It would have been obvious to one of ordinary skill in the art at the time of applicants' invention to have modified Roman to include means for moving the splitter plate-system towards and away from the first

conveyor system, as taught by Flottmann, for the purpose of controlling the separation level (c2 lines 64-67).”

Applicant asserts that the Roman reference can be distinguished from the present invention as defined in amended claim 1 for a number of reasons.

First, in Roman, water or an aqueous solution is applied to the material as it enters the separation stage by a transverse conduit 48 (Column 5 lines 28-60). The liquid is needed to: a) remove static electricity from conveyor; and b) cause separation of paper from plastic. In addition, the liquid spray is important to wet the materials “to facilitate movement of the material across the base 93 of the chute 92 by virtue of its flowing thereon.” See column 6 lines 40-50. By contrast, the materials of the present invention are not wetted because that would reduce the ability of the present invention to blow “the pieces of shredded trash as they exit the end of the conveyor belt with an air stream” as defined in amended claim 1.

Second, then the material of Roman, having been wetted by conduit 48, exits from belt 18 at head pulley 24 and falls by gravity somewhat vertically downward. The material **initially** falls upon a chute 92. See column 6 lines 22-30. The outlet of chute 92 serves to position the falling stream of waste particles ... at which position the material encounters a stream of air.

This aspect of Roman is completely different from the present invention as defined in amended claim 1 where “an air manifold positioned directly underneath and approximately at the end of the conveyor belt for blowing the pieces of shredded trash as they exit the end of the conveyor belt with an air stream which is generally in the direction of travel of the conveyor belt to the roller at one end.” This distinction is at the heart of the present invention because separating the light weight materials (lightweight plastic and paper materials) from heavier materials such as plastic, textile and paper materials requires that the light weight materials be blown with an air stream **immediately** after they exit from the head end of the conveyor belt so that they can be projected far enough to make it over the rotatable cylinder of the splitter plate system. By contrast, Roman initially wets the materials so that they exit from the belt 18 at head pulley 24 and fall by gravity somewhat vertically downward upon a chute 92.

The Office action stated that Roman included a splitter plate system (164) disposed at a position forward of the end of the conveyor system comprising a cylinder (166) which is essentially parallel to the roller at the end of the conveyor belt. There is no teaching or suggestion in Roman that the connection 166 to which the deflector 164 is pivotally mounted to the sidewalls 56 and 58 of plenum 134 is a cylinder. See column 7 lines 54-66.

The present invention, as set forth in amended claim 1, includes a splitter plate system "comprising a rotatable cylinder which is essentially parallel to the roller at the end of the conveyor belt." This structure is completely different from that of Roman since the latter's structure does not provide or even suggest the use of a rotatable cylinder in conjunction with its splitter plate system (164).

Moreover, as stated in the Office Action, Roman does not disclose means for moving the splitter plate-system towards and away from the first conveyor system. The Office Action stated that Flottman discloses means for moving the splitter plate-system towards and away from the conveyor system. While Flottman does disclose this feature, it would be beyond the scope of one skilled in the art to modify Roman to include this feature. The separation apparatus (50) of Roman has a housing which "is supported on a frame including two steel columns 70 and 72." (col 6, lines 7-9). To modify Roman so that the separation apparatus is movable would require a complete restructuring that, besides preventing the apparatus of Roman from operating according to its intended purpose, could only be done in hindsight after seeing applicant's disclosure. Accordingly, claim 1 should be allowable.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roman in view of Flottmann as applied to claim 1 above, and further in view of Wilbur. The Office Action stated that "Roman in view of Flottmann discloses all the limitations of the claim except, wherein the roller rotates in a counterclockwise direction and the cylinder is rotated in the same direction." For the reasons set forth above, the combination of Roman and Flottman lack:

1) blowing "the pieces of shredded trash as they exit the end of the conveyor belt with an air stream" as defined in claim 1; and

2) a splitter plate system "comprising a rotatable cylinder which is essentially parallel to the roller at the end of the conveyor belt" as defined in claim 1.

Since Wilbur does not teach or suggest either of these claimed features, even if the combination of Roman and Flottmann were modified by Wilbur, the terms of claim 3 would not be met. Accordingly, claim 3 should be allowable.

Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roman in view of Flottmann in further view of Wilbur.

As discussed above concerning claim 3, since Wilbur does not teach or suggest the claimed features which are lacking in the combination of Roman and Wilbur, claims 4-6 should be allowable.

Claims 7, 9 and 11 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kaufmann in view of Wilbur in further view of Flottmann. In the explanation as to why the references meet the claims, the Roman reference was applied. Accordingly, it appears that the grounds for rejection inadvertently left out the Roman reference.

As discussed above concerning the other rejections, Roman is fundamentally different from the present invention as claimed. Therefore the rejection based on the Roman reference in combination with the other references does not meet the terms of the claims 7, 9 and 11 and they should therefore be deemed allowable.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roman in view of Flottmann. Essentially, the Roman and Flottman references are combined, as described with claim 1. Since as discussed with regards to claim 1, Roman does not teach or suggest the steps as set forth in claim 12 and Flottmann does not teach steps to overcome these missing limitations, claim 12 should be allowable.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roman in view of

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Flottmann as applied to claim 12 above, and further in view of Wilbur. Since claim 12 is allowable, claim 13 being dependent on claim 12 should also be allowable.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roman in view of Flottman. Since claim 12 is allowable, claim 14 being dependent on claim 12 should also be allowable.

Conclusion

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,



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